

NASA Rocket Propulsion Test Replacement Effort for Oxygen System Cleaner -  
Hydrochlorofluorocarbon (HCFC) 225

H. DeWitt Burns/MSFC, Mark A. Mitchell/MSFC, & Nikki M. Lowrey/Jacobs/MSFC  
Bruce R. Farner/SSC & H. Richard Ross/A2R/SSC

Gaseous and liquid oxygen are extremely reactive materials used in bipropellant propulsion systems. Both flight and ground oxygen systems require a high level of cleanliness to support engine performance, testing, and prevent mishaps. Solvents used to clean and verify the cleanliness of oxygen systems and supporting test hardware must be compatible with the system's materials of construction and effective at removing or reducing expected contaminants to an acceptable level. This paper will define the philosophy and test approach used for evaluating replacement solvents for the current Marshall Space Flight Center/Stennis Space Center baseline HCFC-225 material that will no longer be available for purchase after 2014. MSFC/SSC applications in cleaning / sampling oxygen propulsion components, support equipment, and test system were reviewed then candidate replacement cleaners and test methods selected. All of these factors as well as testing results will be discussed.